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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,662	05/14/2001	Kazuyuki Shigeta	35.C15364	6820

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 08/23/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,662

Applicant(s)

KAZUYUKI

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,11-15,17,19,21,32,40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,11-15,17,19,21,32,40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 11-15, 17, 19, 21, 32 and 40-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 11-15, 17, 19, 21, 32 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et al. (USPN 6219015) in view of Kuramoto (USPN 6545659).

Regarding claims 1, 21 and 32, Bloom teaches a color display system including the use of modulators, which helps generate images that can be viewed directly or projected onto a viewing screen. Bloom also teaches a modulator (30) that can operate to modulate incident light and also teaches diffraction of red, green and blue spectral illumination from a white light (169). See col. 3, lines 28-32, col. 9, lines 10-41 and Fig (8-9).

Bloom does not teach an "illumination means repeating one illumination cycle having a plurality of periods, which include at least periods for illuminating with lights of first, second and third colors which are different from white and different from one another, and two discontinuous periods for illuminating with a white light." Kuramoto on the other hand teaches a method of illuminating a light valve using a light source with modulated intensity such that the

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light valve provided includes a color sequencer for sequentially selecting one of a first, a second, and a third color-band of light that may reach the light output (see the abstract). For example, Kuramoto teaches (as shown in FIGS. 4A, 5, and 6) a color sequencer (9), and light valves operating with a single spatial light modulator (4, 40), which is sequentially illuminated with three color-bands of light (typically red, green, and blue). Kuramoto also teaches these three individual color-band images as a single full-color image with a full-color frame rate of 24 frames/second being used such that each color-band must be displayed for a period of approximately 1/72 second. See col. 13, lines 13-27. Kuramoto also shown in Fig. 4A the light valve being illuminated with light from the "white" light source (10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bloom's display system to adapt Kuramoto's illumination technique as illustrated in Fig. 4A, 5 and 6. One would have been motivated in view of the suggestion in Kuramoto that the illumination technique as configured in Fig. 4A, 5 and 6 meets the desired illumination means. The use of illumination helps function color video displays as taught by kuramoto.

Regarding claims 2-3 and 40-41, Kuramoto teaches as shown in Fig. 4A the light valve being illuminated with light from the "white" light source (10). Kuramoto teaches that a light is modulated, by defining a basic time period (an illumination period of the spatial light modulator).

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Regarding claims 11-14, Bloom teaches the use of a modulator (30) including liquid crystal modulators, DMD-type devices and other types of modulators. See Fig (8-9), col. 2, lines 17-22, and col. 3, lines 10-19.

Regarding claims 15, 17 and 19, Kuramoto discloses in FIG. 2 the modulation of a light source in a ferroelectric liquid crystal-based light valve with sequential color illumination such as those shown in FIGS. 4A-6. Kuramoto also teaches (FIG. 4B) a front view of a particular type of color sequencer (9) shown in FIG. 4A such that the color sequencer (9) is a wheel (18) that can spin around a pivot (20) driven by a stepper motor (22). Kuramoto further discloses that the wheel includes several filter windows (24) that allow only a particular waveband of light to pass, and blocking the remaining others.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abduselam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

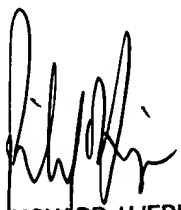
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abduselam

Examiner

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August 19, 2004


RICHARD HJERPE 8/20/04
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600